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LEE & HAYES, PLLC 601 W. RIVERSIDE AVENUE SUITE 1400 SPOKANE, WA 99201			EXAMINER ABDIN, SHAHEDA A	
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

lhptoms@leehayes.com

### Office Action Summary

**Application No.**

10/728,273

**Applicant(s)**

KULKARNI ET AL.

**Examiner**

SHAHEDA A. ABDIN

**Art Unit**

2629

**Period for Reply** -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 10 August 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-10 and 18-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☐ Claim(s) 1-10 and 18-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 04 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB006)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ ~~Notes of Informal Patent Application~~
- 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

1. The amendment filed on 08/10/2009 has been entered and considered by Examiner.

***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-2, 4-5, 18-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Firester (US Patent No: 6611241 B1) in view of Li (NP. IEEE computer Graphics and Applications, see IDS).

**(1) Regarding claim 1:**

Firester discloses a method (in Fig. 15-16) comprising:

advertising (display image data) from a primary terminal client (e.g. Fig. 16) coupled to a plurality of small displays (i.e. 720), the availability (capability) of a contiguous large display (i.e., 700), the large display comprising, the plurality of small displays (display units 712), but advertised as a contiguous (adjacent) large display (i.e. 700) that are control by thin clients (720) (column 16, lines 1-30).

receiving video (void information) data over a network from a network computer (i.e. network computer connected by network connection 751) , the video data format (configured) for display on a-the large display (700) (column 16, lines 1-30).

receiving a remote terminal services environment configuration information (i.e. video data) respectively from a plurality of clients (i.e. display 720), each of the received configuration information including attribute information (display information) associated with a small display (i.e. individual small unit 712) that is part of the large display (700) (column 16, lines 1-30).

reformatting (reformatting or modifying image data, column 4, line 26-29) remote terminal service environment (video data) on the primary terminal client (750) (see Fig. 16, column 4, lines 20-42 and column 5, lines 5-19, and column 16, lines 1-30) for display on number of the plurality of small display that are part of the large contiguous display (i.e. 700);

distributing reformatted remote terminal services environment (i.e. video or reformatted image data) from the primary terminal client (750) to at least some of the small displays (712). (see Fig. 16, column 16, lines 1-30, and also column 4, lines 20-42).

Note that Firester does not disclose managing an active cursor that is displayed on the large contiguous display to pass the active cursor from one of the small displays to .another of the small displays in response a mouse movement received by the primary terminal client.

However, Li discloses that managing an active cursor (managing by mouse client program) that is displayed on the large contiguous display (wall scale display ) to pass the active cursor from one of the small displays to .another of the small displays in response a mouse movement received by the primary terminal client (master cursor control computer) (page 33,column 1 lines 20-42).

Therefore, it would have been obvious to a person of ordinary skill in the art to incorporate the method of managing an active cursor as taught by Li in to the primary terminal client's system of Firester so that the primary terminal client's system could be managed an active cursor that could be displayed on the large contiguous display to pass the active cursor from one of the small displays to .another of the small displays in response a mouse movement received by the primary terminal client. In this configuration the system would provide an immersive and collaborative application with effective data transmission in the modular display device (Li, page 29, column 2, lines 24-33).

**(2) Regarding claim 2:**

Firester teaches the distributing comprises distributing the reformatted remote terminal services environment to the clients (i.e, video data to sub display 720), each of the plurality of clients configured to drive one of the small display being part of the large contiguous display (i.e. modular display screen 102) (column 3, lines 19-35, column 4, lines 20-42, and Fig.2).

**(3) Regarding claim 4:**

Note that both Firester does not teach reformatting comprises converting coordinates of drawing commands (i.e. application windows) from large contiguous display coordinates (i.e. CRT display or Wall display) into small display coordinates.

However, Li teaches wherein the reformatting (extracting) comprises converting coordinates of drawing commands (i.e. application windows) from large display coordinates (i.e. CRT display or Wall display) into small display coordinates (virtual display i.e. small tiles monitors ) (note that user can drag application windows from the regular CRT display into virtual display i.e. substantially display on the display wall, i.e. replaced to the small monitor or tiles, page 34, column 2, 1st paragraph).

Therefore it would have been obvious to a person of ordinary skill in the art to incorporate the method of reformation which is comprising converting coordinates of drawing commands as taught by Li in to the video data formatting system of Firester so that the reformatting could be comprised to convert coordinates of drawing commands) from large display coordinates into small display coordinates. In this configuration the system would provide an immersive and collaborative application with effective data transmission in the modular display device (Li, page 29, column 2, lines 24-33).

**(4) Regarding claim 5:**

Li teaches wherein the reformatting (extracting) comprises creating multiple drawing commands (i.e. computational alignment at input cluster) from a single drawing command (i.e. instruction from the consol), wherein the single drawing command (instruction from the consol) would otherwise control a drawing that spans two or more of the small displays (i.e. multiple tiles monitors in the display wall) (note that) (page 30, column 2, paragraph 6, page, 31, column 1, paragraph 4 and 5).

**(5) Regarding claim 18:**

Firester discloses that a large display configuration computer (in Fig. 15 and 16) comprising: a configuration to:

advertise the availability (accessibility of video data) of a large display (700), the large display comprising a plurality of small display devices (plurality of small content display units 25, see Fig. 2), but advertised as a contiguous (adjacent) large display ([0040-0042]) ;

receive, over a computer network (i.e. 751 connected with network), video data (video information) formatted for displaying in its entirety on the large display (700) that comprises the plurality of small displays (712) ;

receive configuration data (i.e. related image data) from a plurality client computers (720 ) includes a screen resolution each having an associated display device, the configuration data (related image data) received from each client computer (720) (column 16, lines 1-30).

Firester teaches reformat the video data (reformatting or modifying image data, column 4, line 26-29) formatted for the large display (i.e. 700) for display across the display devices associated with the plurality of client computers (i.e. incoming data for each small display portion associated with the small display 712), the reformatting of the video data (i.e. dividing the image information at different image processor ) for the large display including dividing the video data into distinct video data portions that may be individually rendered on the display devices (i.e. small display portions 712) associated with the plurality of client computers (720) (column 3, lines 19-35, column 4, lines 20-42, and Fig. 4, and column 16, lines 1-30).

Note that Firester does not teach a physical location of the display device.

However, Li discloses configuration data received from each client computer (i.e. display cluster PC, Fig. 1) including a physical location and display resolution of the display device (page 31, column 2, last paragraph).

Therefore, it would have been obvious to a person of ordinary skill in the art to incorporate the method of physical location and display location as taught by Li in to the client's system of Firester so that the client's computer could be including a physical location and a display resolution of the display device associated therein. In this configuration the system would provide an immersive and collaborative application with effective data transmission in the modular display device (Li, page 29, column 2, lines 24-33).



**(6) Regarding claim 19:**

Firester teaches the dividing of the video data (i.e. bitmap data) includes converting coordinates (i.e. coordinates of multiple pixel in multiple image generators i.e. pixel-by- pixel that comprise sub image) associated with the video data (i.e. bit map data) into multiple coordinates sets (note that multiple pixels is associated with multiple coordinate sets) (see column 4, lines 1-20).

**(7) Regarding claim 20:**

Firester teaches the configuration module (bit map data) is further configured to send a coordinate set (i.e. the position of the multiple pixel) of the multiple coordinate set each of the plurality of client computers (i.e. IP1-IP4) (see column 4, lines 1-20) .

4. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Firester in view of Li and further in view of Elis (US Patent No: 4562450) .

**Regarding claims 3:**

Firester teach determining a large contiguous display resolution based on the received configuration information from the plurality of thin clients (column 3, lines 30-36);

Li teaches sending a request to the terminal server (network computer) from the primary terminal (i.e. display cluster with multiple PC) to transfer the

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video data from the network computer (i.e. consol, see Fig. 1) to the primary terminal client at the large contiguous display resolution (page 29, column 2, lines 1-17, page 31, column 1, and column 2, lines 1-6, and lines 16-27, also see the illustration in Fig. 1) (note that the console working as a host and video data stream is flowing console to the display clusterPC with throw the system area network, sending and request performance must be applied between consol and display cluster to transfer video data).

Therefore, it would have been obvious to a person of ordinary skill in the art to incorporate the method of requesting to the network computer from the primary terminal client to transfer the video data as taught by Li into the display system of Firester so that the network computer from the primary terminal client could be transferred the video data from the network computer to the primary terminal client at the large contiguous display resolution. In this configuration the system would provide an immersive and collaborative application with effective data transmission in the modular display device (Li, page 29, column 2, lines 24-33).

Note that both Firester and Li do not teach an identification (address) and location (i.e. position active area) for each of the small displays (i.e. four separate display area) (column 4, lines 30-45, column 12, lines 30-48).

Ellis in the same field of endeavor teaches an identification (address) and location (i.e. position active area) for each of the small displays (i.e. four separate display area) (column 4, lines 30-45, column 12, lines 30-48).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of invention to incorporate the method of identification as taught by Ellis in to the display system of Firester as modified by Li so that receiving the configuration information from each of the primary of thin clients could be included an identification and a location for each of the small displays that is the part of the large contiguous display. In this configuration the system would an enhanced high resolution in the large display device (Ellis, column 4, lines 65-67).

5. Claims 6-7, 9-10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Firester in view of Li and further in view of Vaitekunas (20030004806 A1).

**(1) Regarding claim (6):**

Claim limitations and subject matter of claim 6 is discussed in claim 1. The claim defers from claim 1 in that the limitation "a processor-readable medium comprising processor executable instruction" additionally recited.

However, Vaitekunas teach a flowchart in Fig 5-6 which must need to have a processor to execute the Flowchart for the advertising system (see Fig. 5-7).

Therefore, it would have been obvious to a person of ordinary skill in the art to incorporate the a processor-readable medium comprising processor executable instruction as taught by Vatekunas in to the Firester as modified by Li remote data distribution method so that a processor-readable medium be comprising processor executable instruction. In this configuration the system would provide a high efficiency data transmission in the advertising system of the modular display.

**(2) Regarding claim 7:**

Vaitekunas discloses determining a large display resolution (i.e. content display unit visually displays the information from the content of an image, [0010]) from the configuration information ([0010]),

Li teaches requesting (sending request from multiple pc) from a network computer (console, see Fig. 1), the video data at the large display resolution (page 29, column 2, lines 1-17, page 31, column 1, and column 2, lines 1-6, and lines 16-27, also see the illustration in Fig. 1) (note that the console working as a host and video data stream is flowing console to intermediate computer (i.e. display cluster) throw the system area network, sending and request performance must be applied between consol and display cluster to transfer video data). Thus, it would have been obvious to combining the reference of Li and Vaitenkunas in to the data distribution system of Firester to teach the limitation as recited in claim 7.

**(3) Regarding claim 9.**

Note that in claim 6 discussed about a processor-readable medium (Firester, column 16, lines 19-30 ) (see the discussion in claim 6);

Li teaches wherein the reconfiguring the video data comprises : altering (correcting) coordinates of a drawing (i.e. perspective matrix ) command (i.e. execution information from projector) to correspond to one of the small display (i.e. small monitors in the large display wall) (note that corrected matrix based on video stream which is received each time from the console to display cluster's PC's, which is executed by projector and the drawing i.e. new pixel forms , page 30, column 2, paragraph 2-3, page 34, column 2, paragraph 3); and creating multiple new drawing commands (i.e. new pixel information for the multiple tiles) from a single drawing command (i.e. information from the display cluster), each new drawing command corresponding to one of the small displays (i.e. multiple monitors or tiles in the large display wall) (page 34, column 1, paragraph 2, column 2, paragraph 1-4). Thus, it would have been obvious to combining the reference of Li and Vaitenkunas as modified by Firester to teach the limitation as recited in claim 9.

**(4) Regarding claim 10:**

Note that a processor-readable medium as is discussed in Fig. 6, and Li teach wherein the sending (sending extracted data from the display cluster) comprises determining which small displays (i.e. small monitors) to send reconfigured video data to based on which portion of the large display (i.e. screen of the large display) each of the small displays supports (note that each

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projector render only its own tile portion of the screen space which is based on the corrected or extracted video data, therefore, sending video data based on the portion of the large display) (page 34, column 2, paragraph 3). Thus, it would have been obvious to combining the reference of Li and Vaitenkunas as modified by Firester to teach the limitation as recited in claim 10.

6. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Firester, Li and Vatikunans and further in view of Ellis and Sakai et al (US Patent No; 5680525).

**Regarding claim 8:**

Firester teaches wherein the received configuration from each of the plurality of clients ((i.e. 720) includes a screen resolution for one of the small displays that is part of the large display ((i.e. modular display 700) (see Fig. 16) and Ellis teaches Identification information, but Vaitekunas, Firester and Li and Ellis do not teach determining a large contiguous display resolution comprises summing the screen resolutions of the small displays according to a location of the small displays within the large contiguous display.

However, Sakai in the same field of endeavor teaches determining a large display resolution comprises summing the screen resolutions of the small displays ( pattern, e.g. 2111b or 21233 ) according to a location of the small displays within the large contiguous display (note that three dimensional image memory associate pattern 21233 as illustrated in Fig. 30 and 2111b as

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illustrated in Fig. 26, which is associated with the total total screen resolution of the entire display, also see column 28, lines 1-10, and column 30 lines 45-54).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of invention to incorporate the method summing (i.e. calculating) the resolution as taught by Sakai into the display system of Firester as modified by Li, and Ellis so that determining a large display resolution could be summing (calculation) the screen resolutions of the small displays according to a location of the small displays within the large contiguous display. In this configuration the system would have high resolution display with better quality.

### **Response to Arguments**

7. Applicant's arguments with respect to claims 1-10, and 18-19 have been considered but are moot in view of the new ground(s) of rejection.

More specifically applicant argues that the limitations claim 8 "summing the screen resolutions" are not teaches by Sakai. However Examiner disagree applicant's point of view. Note that Sakai reference teaches the limitation (see the discussion in claim 8).

Applicant also argues that Firester does not teach the amended limitation s as recited in the claim 1. However, Examiner disagree Applicant's point of view. Firester teaches the amended limitations. See the discussion in claim 1.

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### **Inquiry**

8. Any inquiry concerning this communication or earlier communication from the examiner should be directed to **Shaheda Abdin** whose telephone number is (571) 270-1673.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **Richard HJerpe** could be reached at (571) 272-7691. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Shaheda Abdin

12/04/2009

/Richard Hjerpe/

Supervisory Patent Examiner, Art Unit 2629

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